

CLAIMS

1. Method of handling messages in a mobile communications system (1), comprising the steps of:

5 transferring a message and associated first hardware identification data of an intended terminating receiver (16:1, 16:2, 14:1, 14:2) of the message from an application node (70; 70:1-3) to a message controller (40);

interacting between the message controller (40) and a location updated subscriber database (50);

10 further managing of the message based on the first hardware identification data and data stored in the location updated subscriber database (50).

2 Method according to claim 1, **characterised by** the further step of:

15 comparing the first hardware identification data and hardware identification data stored in the location updated subscriber database (50), whereby the step of further managing being based on the outcome of the step of comparing.

20 3. Method according to claim 1 or 2, **characterised in that** the step of interacting in turn comprises the steps of:

sending the first hardware identification data from the message controller (40) to the location updated subscriber database (50);

25 whereby the first hardware identification data is used in the location updated subscriber database (50) to retrieve an address, if any, of a switching or support node (20:1) presently handling hardware (16:1, 16:2, 14:1, 14:2) defined by the hardware identification data; and

30 returning the address of the switching or support node (20:1), if any, from the location updated subscriber database (50) to the message controller (40);

whereby the step of further managing comprises initiating of a transmission of the message to the address of the switching or support node (20:1).

4. Method according to claim 3, **characterised in that** the step of further managing further comprises, if no address of a switching or support node (20:1) presently handling hardware (16:1, 16:2, 14:1, 14:2) defined by the hardware identification data is retrieved in the location updated subscriber database (50), storing of the message and resuming the interacting step with the location updated subscriber database (50) after a delay time.

5. Method according to claim 1 or 2, **characterised by** the further step of transferring mobile subscriber identification data associated with the message from the application node (70; 70:1-3) to the message controller (40).

10 6. Method according to claim 5, **characterised in that** the mobile subscriber identification data is a mobile subscriber ISDN number.

15 7. Method according to claim 5 or 6, **characterised in that** the step of interacting in turn comprises the steps of:

20 sending the mobile subscriber identification data from the message controller (40) to the location updated subscriber database (50);

25 retrieving an address, if any, of a switching or support node (20:1) presently handling a mobile subscriber (10:1) defined by the mobile subscriber identification data and second hardware identification data associated therewith; and

30 returning the address of the switching or support node (20:1) and the second hardware identification data from the location updated subscriber database (50) to the message controller (40).

8. Method according to claim 7, **characterised in that** a comparing step being performed in the message controller (40), comparing the first and second hardware identification data; and

35 whereby the step of further managing comprises, if the first and second hardware identification data are equivalent, an initiating of a

transmission of the message to the address of the switching or support node (20:1).

9. Method according to claim 8, **characterised in that** the step of further managing further comprises, if the first and second hardware identification data are non-equivalent, storing of the message and resuming the interacting step with the location updated subscriber database (50) after a delay time.

10. Method according to claim 8 or 9, **characterised in that** the step of further managing further comprises, if the first and second hardware identification data are non-equivalent, sending of an error message to the application node (70; 70:1-3).

11. Method according to any of the claims 1 to 10, **characterised in that** the first and second hardware identification data comprises at least one of subscriber identification module identification data and mobile equipment identification data.

12. Method according to claim 11, **characterised by** returning at least one of subscriber identification module identification data and mobile equipment identification data from the location updated subscriber database (50) to the message controller (40).

13. Method according to any of the claims 1 to 12, **characterised in that** the message is a short message service - SMS - message and the message controller (40) is a SMS controller.

14. Method according to any of the claims 1 to 13, **characterised in that** the location updated subscriber database (50) is home location register.

15. Method according to the claim 3 or 7 or any claim dependent on claim 3 or 7, **characterised in that** the switching or support node (20:1) is a mobile switching centre.

16. Message controller (40), comprising:

first receiver (48) for a message and associated first hardware identification data of an intended terminating receiver of the message; and

5 means (46) for interacting with a location updated subscriber database (50); and

means (46) for further managing of the message based on the first hardware identification data and data stored in the location updated subscriber database (50).

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17. Message controller according to claim 16, **characterised in that** the means (46) for further managing is arranged to be based on the outcome of a comparison between the first hardware identification data and hardware identification data stored in the location updated subscriber database (50).

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18. Message controller according to claim 16 or 17, **characterised in that** the means (46) for interacting in turn comprises:

sending means for sending the first hardware identification data to the location updated subscriber database (50);

20 second receiver for an address, if any, of a switching or support node (20:1) presently handling hardware (16:1, 16:2, 14:1, 14:2) defined by the hardware identification data from the location updated subscriber database (50);

25 the means (46) for further managing comprising means for initiating a transmission of the message to the address of the switching or support node (20:1).

19. Message controller according to claim 18, **characterised in that** the means (46) for further managing further comprises, if no address of a switching or support node (20:1) presently handling hardware (16:1, 16:2, 14:1, 14:2) defined by the hardware identification data is provided by the location updated subscriber database (50), storing of the message and

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resuming the interacting step with the location updated subscriber database (50) after a delay time.

20. Message controller according to claim 16 or 17, **characterised in that** the first receiver (48) is arranged for further receiving mobile subscriber identification data.

21. Message controller according to claim 20, **characterised in that** the mobile subscriber identification data is a mobile subscriber ISDN number.

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22. Message controller according to claim 20 or 21, **characterised in that** the means (46) for interacting in turn comprises:

 sending means for sending the mobile subscriber identification data to the location updated subscriber database (50); and

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 second receiver for an address, if any, of a switching or support node (20:1) presently handling a mobile subscriber (10:1) defined by the mobile subscriber identification data and second hardware identification data associated therewith from the location updated subscriber database (50).

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23. Message controller according to claim 22, **characterised by:**

 means (46) for comparing the first and second hardware identification data;

 the means (46) for further managing comprising means for initiating a transmission of the message to the address of the switching or support node (20:1);

 whereby the means for initiating is arranged to operate if the output of the means for comparing indicates that the first and second hardware identification data are equivalent.

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24. Message controller according to claim 23, **characterised in that** the means (46) for further managing further comprises means (44) for storing of the message and means for resuming interaction with the location updated subscriber database (50) after a delay time;

whereby the means (44) for storing and means for resuming are arranged to operate if the output of the means for comparing indicates that the first and second hardware identification data are non-equivalent.

5 25. Message controller according to claim 23 or 24, **characterised in that** the means (46) for further managing further comprises means for sending of an error message to an originating node (70; 70:1-3) of the message;

10 whereby the means for sending an error message is arranged to operate if the output of the means for comparing indicates that the first and second hardware identification data are non-equivalent.

15 26. Message controller according to any of the claims 16 to 25, **characterised in that** the first and second hardware identification data comprises at least one of subscriber identification module identification data and mobile equipment identification data.

20 27. Message controller according to claim 26, **characterised in that** the second receiver is arranged to receive at least one of subscriber identification module identification data and mobile equipment identification data from the location updated subscriber database (50).

25 28. Message controller according to any of the claims 16 to 27, **characterised in that** the message is a short message service - SMS - message and the message controller is a SMS controller.

29. Communications system node having location updated subscriber database (50), comprising:

storage for address and hardware identification data associated with mobile subscribers; and

30 means for updating content of the storage;
characterised by

receiver for hardware identification data associated with an intended terminating receiver (16:1, 16:2, 14:1, 14:2) of a message from a message controller (40);

5 means for retrieving an address, if any, of a switching or support node (20:1) presently handling hardware (16:1, 16:2, 14:1, 14:2) defined by the hardware identification data from the storage; and

sender for sending the address of the switching or support node (20:1) presently handling hardware (16:1, 16:2, 14:1, 14:2) defined by the hardware identification data to the message controller (40).

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30. Communications system node according to claim 29, **characterised in that** the sender further comprises means for sending hardware identification data to the message controller (40).

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31. Communications system node according to claim 29 or 30, **characterised in that** the location updated subscriber database (50) is a home location register.

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32. Mobile communications system (1), comprising at least one message controller according to any of the claims 16 to 28.

33. Mobile communications system according to claim 32, **characterised by** further comprising at least one communications system node according to any of the claims 29 to 31.

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